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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19303A GSRS, MISSILE NUMBER 1154, ROUND NUMBER V-19.(U)
MAR 79

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10 JAN 1979

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METEOROLOGICAL DATA REPORT

193034 GSRS
Missile No. 1154
Round No. V-19

by

WSMR Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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1. Ballistics
2. Meteorology
3. Wind

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report contains

Meteorological data gathered for the launching of 19303A GSRS, Missile
Number 1154, Round Number V-19, are presented in tabular form.

JB

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
MAP -----	2
TABLES	
1. SURFACE OBSERVATIONS TAKEN AT LC-33 AT 0910 MST, 19 MARCH 1979 ---	3
2. LC-33 FIXED POLE ANEMOMETER MEASURED WINDS AT 0910 LST -----	4
3. LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER), LEVELS 1, 2, 3, AND 4 AT 0910 MST -----	5
4. PILOT BALLOON MEASURED WIND DATA AT 0850 LST -----	6
5. PILOT BALLOON MEASURED WIND DATA AT 0910 LST -----	7
6. SMR SIGNIFICANT LEVEL DATA AT 0900 MST -----	8
7. SMR UPPER AIR DATA AT 0900 MST -----	9-14
8. MRN SIGNIFICANT LEVEL DATA AT 0900 MST -----	15
9. SMR MANDATORY LEVELS AT 0900 MST -----	16
10. MRN MANDATORY LEVELS AT 0900 MST -----	17

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Distribution/	
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INTRODUCTION

19303 GSPS (AA), Missile Number(s) 1154, Round Number(s) V-19, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0910 MST, 19 March 1979. The scheduled launch time(s) were 0900 and MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

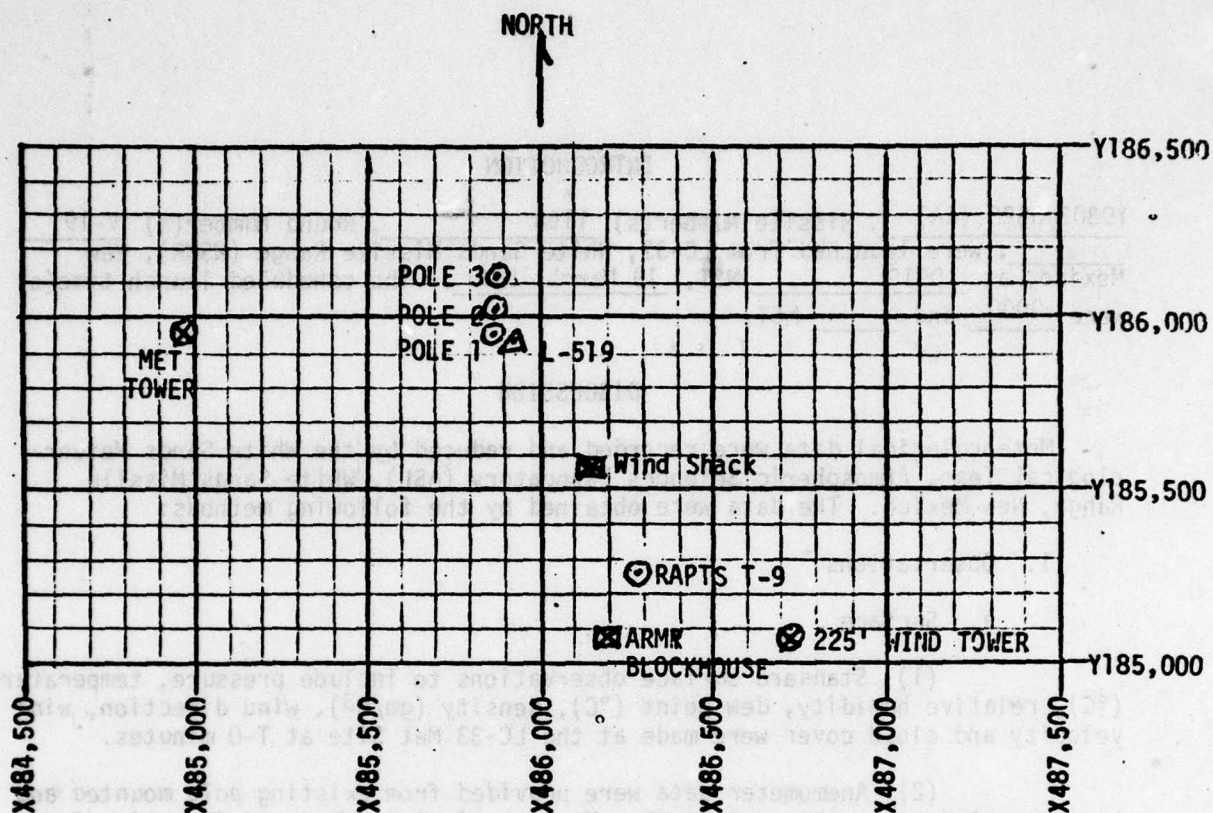
b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation as follows:

SITE AND ALTITUDE

LC-33 1 kilometer (50 meter inc)
at 0850 MST and 0910 MST

(2) Air structure data (rawinsonde) were collected at the SMR Met Site at T-0 minutes. Data were collected from surface to 125% of apogee in 500-foot increments.



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

ELEVATION	3977.30	FEET/MSL
PRESSURE	878.8	INPS
TEMPERATURE	10	°C
RELATIVE HUMIDITY	54	%
DEW POINT	1.2	°C
DENSITY	1077	GM/M ³
WIND SPEED	CALM	
WIND DIRECTION		
CLOUD COVER	9	CI

TABLE 1. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 0910 MST, 19 MARCH 1979
(AA) 19303 GSRS, MISSILE NUMBER 1154
POUND NUMBER V-19

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	CALM	CALM	-30	347	3	-30	CALM	CALM
-20	CALM	CALM	-20	347	3	-20	CALM	CALM
-10	CALM	CALM	-10	350	3	-10	CALM	CALM
0.0	CALM	CALM	0.0	350	3	0.0	CALM	CALM
+10	CALM	CALM	+10	350	3	+10	CALM	CALM

POLE #1 = X485, 74.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485, 874.93 Y186, 112.00 H4033.57 53.0 ft. AGL

POLE #3 = X485, 877.29 Y186, 116.06 H4063.92 83.6 ft. AGL

TABLE 2

TYPE 19303 GSRS MISSILE NO. 1154 ROUND NO. V-19

LAUNCHED FROM LC-33 DATE 19 March 1979 TIME 0910 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 ft			LEVEL #2 62 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	CALM	CALM	-30	CALM	CALM
-20	CALM	CALM	-20	CALM	CALM
-10	CALM	CALM	-10	CALM	CALM
0.0	CALM	CALM	0.0	CALM	CALM
+10	CALM	CALM	+10	CALM	CALM
LEVEL #3 102 ft			LEVEL #4 202 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	CALM	CALM	-30	CALM	CALM
-20	CALM	CALM	-20	CALM	CALM
-10	CALM	CALM	-10	CALM	CALM
0.0	CALM	CALM	0.0	CALM	CALM
+10	CALM	CALM	+10	CALM	CALM

WTSM COORDINATES: X484,982.64 Y185, 57.73 H3983.00 (base)

TABLE 3

TYPE 19303 GSRS MISSILE NO. 1154 ROUND NO. V-19

LAUNCHED FROM LC-33 DATE 19 March 1979 TIME 0910 MST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH _____

OR TRUE NORTH TRUE NORTH

PILOT BALLOON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
SUR	CALM	
50	CALM	
100	270	0.5
150	090	1.5
200	092	3.0
250	118	3.0
300	100	4.0
350	174	8.5
400	172	9.0
450	168	10.0
500	156	9.5

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	168	11.5
600	169	11.5
650	170	11.0
700	162	12.0
750	157	11.0
800	154	10.5
850	155	14.0
900	154	13.0
950	153	13.0
1000	163	15.0
1050		

TABLE 4

RELEASED FROM LC-33 DATE 19 March 1979 TIME 0850 LST

RELEASE POINT COORDINATES (UTM) X = 486,037.24 Y = 102,350.16 H = 3977.30

MISSILE TYPE 19303 GSRs MISSILE NO. 1154 ROUND NO. V-19

MISSILE LAUNCHED FROM LC-33 DATE 19 March 1979 TIME 0910 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH: _____

OR TRUE NORTH: TRUE NORTH

PILOT BALLOON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DLGREES	SPEED MPH
SUR	CALM	
50	044	4.5
100	090	3.0
150	090	3.0
200	071	2.0
250	135	3.0
300	162	5.5
350	169	6.0
400	175	12.0
450	161	11.0
500	156	10.0

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	170	13.0
600	166	12.0
650	167	14.0
700	171	14.0
750	173	12.0
800	168	12.5
850	153	13.0
900	169	10.5
950	175	12.0
1000	183	13.0
1050		

TABLE 5

RELEASED FROM LC-33 DATE 19 March 1979 TIME 0910 LST

RELEASE POINT COORDINATES (WSTM) X = 486,37.24 Y = 182,350.16 H = 3977.30

MISSILE TYPE 19303 GSRS MISSILE NO. 1154 ROUND NO. V-19

MISSILE LAUNCHED FROM LC-33 DATE 19 March 1979 TIME 0910 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH TRUE NORTH.

STATION ALTITUDE 3997.30 FEET MSL
19 MAP. 79 0900 HRS MST
ASCENSION NO. 48

SIGNIFICANT LEVEL DATA
0780060046
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	REL. HUM. PERCENT
875.0	3997.3	11.1	-2.3	39.0
850.0	4765.5	6.9	-5.1	39.0
837.2	5196.2	8.5	-5.3	37.0
816.6	5872.1	8.2	-5.6	37.0
766.2	7566.5	4.0	-9.0	38.0
700.0	9974.4	-1.8	-14.2	38.0
676.8	10853.3	-3.0	-25.2	16.0
661.4	11452.2	-3.0	-17.3	32.0
643.0	12185.0	-4.0	-24.7	18.0
573.2	15138.2	-8.6	-29.2	17.0
500.0	18566.2	-16.9	-23.6	56.0
438.0	21765.0	-24.9	-29.4	66.0
400.0	23934.8	-29.9	-36.0	55.0
339.8	27692.9	-38.4	-44.9	50.0
300.0	30468.2	-45.8	-50.9	56.0
259.4	33592.8	-54.9		
250.0	34366.7	-56.7		
233.8	35757.8	-59.1		
221.7	36861.4	-56.7		
210.0	37989.1	-58.5		
200.0	39001.6	-57.7		
171.0	42303.9	-51.8		
150.0	45099.8	-52.5		
133.4	47593.9	-53.4		
113.0	51093.0	-56.4		
100.0	53624.4	-61.2		
91.4	55450.4	-64.9		
70.0	60863.2	-60.1		
66.2	62040.0	-57.6		
50.0	67861.9	-58.4		
30.0	78505.2	-55.9		
20.0	87229.7	-49.4		
17.6	90016.2	-47.3		
13.3	96316.8	-35.3		
11.4	99854.3	-38.1		
9.6	103761.0	-37.5		

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

UPPER AIR DATA
0780061046
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.3	875.0	11.1	-2.3	39.0	1070.0	657.6	30.0	1.9	1.000263
4000.0	874.9	11.1	-2.3	39.0	1069.9	657.5			1.000263
4500.0	859.0	8.4	-4.7	39.0	1060.7	654.3			1.000257
5000.0	843.3	7.7	-5.7	38.0	1044.0	653.3			1.000252
5500.0	827.9	8.4	-5.5	37.0	1022.6	654.3			1.000247
6000.0	812.7	7.9	-5.9	37.1	1005.6	653.7			1.000243
6500.0	797.8	6.7	-6.8	37.4	991.5	652.2			1.000239
7000.0	783.1	5.4	-7.8	37.7	977.6	650.6			1.000234
7500.0	768.7	4.2	-8.8	37.9	964.0	649.3			1.000230
8000.0	754.3	3.0	-9.9	38.0	950.2	647.9			1.000226
8500.0	740.2	1.8	-11.0	38.0	936.6	646.4			1.000222
9000.0	726.3	.6	-12.1	38.0	923.2	644.9			1.000218
9500.0	712.7	-6.6	-13.2	38.0	910.0	643.5	209.2	19.7	1.000214
10000.0	699.3	-1.8	-14.4	37.4	896.9	642.0	215.7	22.3	1.000210
10500.0	686.0	-2.5	-19.9	24.8	882.5	641.1	220.8	25.2	1.000203
11000.0	673.0	-3.0	-22.8	19.9	867.4	640.5	222.5	28.8	1.000198
11500.0	660.2	-3.1	-17.7	31.1	850.8	640.5	223.6	32.6	1.000197
12000.0	647.6	-3.7	-22.5	21.5	836.9	639.6	225.7	33.9	1.000192
12500.0	635.2	-4.5	-25.2	17.9	823.2	638.7	226.0	34.6	1.000187
13000.0	622.9	-5.3	-26.0	17.7	809.7	637.8	230.6	35.7	1.000184
13500.0	610.9	-6.0	-26.7	17.6	796.5	636.8	233.0	37.1	1.000181
14000.0	599.2	-6.8	-27.5	17.4	783.4	635.9	231.1	39.3	1.000178
14500.0	587.6	-7.6	-28.2	17.2	770.6	635.0	229.1	41.7	1.000175
15000.0	576.3	-8.4	-29.0	17.0	759.0	634.0	226.3	41.9	1.000172
15500.0	565.0	-9.5	-27.6	21.1	746.2	632.7	223.6	42.1	1.000170
16000.0	553.8	-10.7	-26.1	26.8	734.8	631.3	223.2	41.6	1.000168
16500.0	542.9	-11.9	-25.0	32.5	723.5	629.9	222.8	41.2	1.000166
17000.0	532.2	-13.1	-24.3	38.2	712.5	628.4	223.4	41.6	1.000163
17500.0	521.7	-14.3	-23.9	43.9	701.7	627.0	224.2	42.0	1.000161
18000.0	511.4	-15.5	-23.6	49.6	691.1	625.5	224.4	43.3	1.000159
18500.0	501.3	-16.7	-23.6	55.2	680.6	624.0	224.4	44.6	1.000157
19000.0	491.2	-18.0	-24.3	57.3	670.1	622.5	225.4	46.0	1.000154
19500.0	481.2	-19.2	-25.2	58.9	659.7	621.0	226.6	47.4	1.000152
20000.0	471.4	-20.5	-26.1	60.5	649.5	619.5	228.4	48.2	1.000149
20500.0	461.8	-21.7	-27.0	62.0	639.4	617.9	230.4	49.0	1.000146
21000.0	452.4	-22.9	-27.9	63.6	629.5	616.4	231.9	49.3	1.000144
21500.0	443.2	-24.2	-28.8	65.1	619.8	614.8	233.3	49.3	1.000141
22000.0	434.0	-25.4	-30.0	64.9	610.0	613.3	233.1	50.2	1.000139
22500.0	425.0	-26.6	-31.6	62.3	600.2	611.9	232.4	51.5	1.000136
23000.0	416.1	-27.7	-33.1	59.8	590.4	610.4	231.1	52.4	1.000134

AX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

UPPER AIR DATA
0780060048
S M R

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MGT
ASCENSION NO. 48

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	407.4	-28.9	57.2	580.9	609.0	229.7	53.2	1.000131
24000.0	398.9	-30.0	54.9	571.4	607.5	229.9	51.8	1.000129
24500.0	390.3	-31.2	54.2	561.8	605.1	230.3	50.2	1.000127
25000.0	381.9	-32.3	53.6	552.3	604.7	230.5	48.7	1.000124
25500.0	373.7	-33.4	52.9	543.0	603.2	230.7	47.3	1.000122
26000.0	365.7	-34.6	52.3	533.9	601.8	229.7	48.6	1.000120
26500.0	357.9	-35.7	51.6	524.9	600.4	229.0	49.9	1.000118
27000.0	350.2	-36.8	50.9	516.1	598.9	230.6	51.3	1.000116
27500.0	342.7	-38.0	50.3	507.5	597.5	232.1	52.6	1.000114
28000.0	335.1	-39.2	50.7	499.0	595.9	234.0	53.3	1.000112
28500.0	327.7	-40.6	51.7	490.8	594.2	235.5	54.0	1.000110
29000.0	320.4	-41.9	52.8	482.6	592.5	235.3	54.3	1.000108
29500.0	313.3	-43.2	53.9	474.7	590.8	235.2	54.5	1.000106
30000.0	306.4	-44.6	55.0	466.8	589.0	235.7	53.8	1.000104
30500.0	299.6	-45.9	55.4**	459.2	587.3	236.2	53.1	1.000103
31000.0	292.7	-47.3	46.5**	451.5	585.4	237.4	52.7	1.000101
31500.0	285.9	-48.8	37.5**	444.0	583.5	239.5	52.4	1.000099
32000.0	279.4	-50.3	28.5**	436.6	581.6	240.8	52.5	1.000097
32500.0	272.9	-51.7	19.6**	429.4	579.7	242.0	52.8	1.000096
33000.0	266.7	-53.2	10.6**	422.3	577.8	243.3	53.3	1.000094
33500.0	260.5	-54.6	1.7**	415.3	575.9	244.5	53.9	1.000093
34000.0	254.4	-55.8		407.9	574.3	245.0	54.3	1.000091
34500.0	248.4	-56.9		400.2	572.9	245.0	54.6	1.000089
35000.0	242.5	-57.3		392.3	571.7	243.9	54.7	1.000087
35500.0	236.7	-58.7		384.5	570.6	242.1	54.7	1.000086
36000.0	231.1	-58.6		375.2	570.7	240.6	55.0	1.000084
36500.0	225.6	-57.5		364.4	572.1	239.5	55.6	1.000081
37000.0	220.2	-56.9		354.8	572.9	238.9	56.3	1.000079
37500.0	215.0	-57.7		347.7	571.8	239.0	57.4	1.000077
38000.0	209.9	-58.5		340.6	570.6	239.1	58.2	1.000076
38500.0	204.9	-58.1		331.9	571.3	239.3	58.2	1.000074
39000.0	200.0	-57.7		323.4	571.8	239.5	58.2	1.000072
39500.0	195.3	-56.8		314.5	573.0	239.4	56.8	1.000070
40000.0	190.7	-55.9		305.9	574.2	240.2	55.3	1.000068
40500.0	186.3	-55.0		297.5	575.4	240.5	54.6	1.000066
41000.0	181.9	-54.1		289.3	576.6	240.9	54.1	1.000064
41500.0	177.6	-53.2		281.4	577.7	241.2	54.6	1.000063
42000.0	173.5	-52.3		273.7	578.9	241.3	55.6	1.000061
42500.0	169.4	-51.8		266.7	579.5	241.4	56.7	1.000059
43000.0	165.5	-52.0		260.7	579.4	241.5	57.9	1.000058

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

UPPER AIR DATA
0780060048
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TI)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	161.7	-52.1		254.8	579.2	241.5	59.2	1.000057
44000.0	157.9	-52.2		249.0	579.1	241.5	60.8	1.000055
44500.0	154.3	-52.3		243.4	578.9	241.6	61.9	1.000054
45000.0	150.7	-52.5		237.9	578.7	241.8	62.0	1.000053
45500.0	147.2	-52.6		232.6	578.5	242.2	61.6	1.000052
46000.0	143.8	-52.8		227.3	578.3	242.8	58.7	1.000051
46500.0	140.4	-53.0		222.2	578.0	243.6	55.6	1.000050
47000.0	137.2	-53.2		217.3	577.8	244.6	51.9	1.000048
47500.0	134.0	-53.4		212.4	577.6	245.7	48.1	1.000047
48000.0	130.9	-53.7		207.8	577.1	245.8	45.9	1.000046
48500.0	127.8	-54.2		203.3	576.5	249.0	43.7	1.000045
49000.0	124.8	-54.6		198.9	575.9	245.4	42.6	1.000044
49500.0	121.9	-55.0		194.6	575.4	244.6	41.9	1.000043
50000.0	119.0	-55.5		190.5	574.8	243.4	41.3	1.000042
50500.0	116.2	-55.9		186.4	574.2	241.9	40.8	1.000041
51000.0	113.5	-56.3		182.4	573.7	240.3	40.3	1.000041
51500.0	110.8	-57.2		178.7	572.5	238.5	39.8	1.000040
52000.0	108.2	-58.1		175.2	571.3	236.6	39.3	1.000039
52500.0	105.6	-59.1		171.8	570.0	235.9	38.5	1.000038
53000.0	103.1	-60.0		168.5	568.8	236.0	37.5	1.000038
53500.0	100.6	-61.0		165.2	567.5	236.2	36.4	1.000037
54000.0	98.2	-62.0		161.9	566.1	237.3	35.2	1.000036
54500.0	95.8	-63.0		158.8	564.8	238.5	34.0	1.000035
55000.0	93.5	-64.0		155.6	563.4	238.8	33.3	1.000035
55500.0	91.2	-64.9		152.5	562.3	239.7	32.9	1.000034
56000.0	89.0	-64.4		148.5	562.9	238.5	32.8	1.000033
56500.0	86.8	-64.0		144.8	563.4	238.0	33.1	1.000032
57000.0	84.7	-63.5		140.8	564.0	237.5	33.5	1.000031
57500.0	82.6	-63.1		137.1	564.6	237.2	32.2	1.000031
58000.0	80.6	-62.6		133.5	565.2	236.9	30.7	1.000030
58500.0	78.7	-62.2		130.0	565.8	236.7	28.1	1.000029
59000.0	76.8	-61.8		126.5	566.4	236.5	24.6	1.000028
59500.0	74.9	-61.3		123.2	567.0	236.2	21.0	1.000027
60000.0	73.1	-60.9		120.0	567.8	235.2	17.7	1.000027
60500.0	71.3	-60.4		116.8	568.2	233.7	14.3	1.000026
61000.0	69.6	-59.8		113.7	569.0	230.5	11.0	1.000025
61500.0	67.9	-58.8		110.4	570.4	223.6	7.7	1.000025
62000.0	66.3	-57.7		107.2	571.9	208.7	4.7	1.000024
62500.0	64.8	-57.7		104.7	571.9	168.4	3.8	1.000023
63000.0	63.2	-57.7		102.2	571.8	130.7	4.8	1.000023

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

UPPER AIR DATA
0780060046
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	61.7	-57.8		99.8	571.7	119.5	6.5	1.000022
64000.0	60.3	-57.9		97.5	571.6	115.7	8.3	1.000022
64500.0	58.8	-57.9		95.2	571.5	113.6	9.5	1.000021
65000.0	57.4	-58.0		93.0	571.4	112.6	9.8	1.000021
65500.0	56.1	-58.1		90.8	571.3	111.8	10.2	1.000020
66000.0	54.7	-58.1		88.7	571.2	117.1	9.1	1.000020
66500.0	53.4	-58.2		86.6	571.2	124.0	8.0	1.000019
67000.0	52.2	-58.3		84.6	571.1	132.8	7.4	1.000019
67500.0	50.9	-58.3		82.6	571.0	142.7	7.2	1.000018
68000.0	49.7	-58.4		80.6	570.9	150.6	7.2	1.000018
68500.0	48.5	-58.3		78.7	571.1	143.1	6.6	1.000018
69000.0	47.4	-58.1		76.8	571.3	134.2	6.1	1.000017
69500.0	46.3	-58.0		74.9	571.4	129.0	6.6	1.000017
70000.0	45.2	-57.9		73.1	571.6	126.4	7.5	1.000016
70500.0	44.1	-57.8		71.4	571.7	126.5	8.1	1.000016
71000.0	43.1	-57.7		69.6	571.9	133.7	7.9	1.000015
71500.0	42.1	-57.6		68.0	572.0	141.1	7.8	1.000015
72000.0	41.1	-57.4		66.3	572.2	147.4	6.5	1.000015
72500.0	40.1	-57.3		64.7	572.3	158.1	4.6	1.000014
73000.0	39.1	-57.2		63.1	572.5	180.2	3.1	1.000014
73500.0	38.2	-57.1		61.6	572.8	173.4	2.2	1.000014
74000.0	37.3	-57.0		60.1	572.8	139.7	1.9	1.000013
74500.0	36.4	-56.9		58.7	573.0	108.1	2.4	1.000013
75000.0	35.6	-56.7		57.3	573.1	66.1	4.1	1.000013
75500.0	34.7	-56.6		55.9	573.3	50.1	6.9	1.000012
76000.0	33.9	-56.5		54.5	573.4	43.6	9.9	1.000012
76500.0	33.1	-56.4		53.2	573.6	40.4	10.9	1.000012
77000.0	32.3	-56.3		51.9	573.7	37.7	11.6	1.000012
77500.0	31.6	-56.1		50.7	573.9	35.3	12.3	1.000011
78000.0	30.8	-56.0		49.5	574.0	38.1	10.0	1.000011
78500.0	30.1	-55.9		48.3	574.2	43.0	7.6	1.000011
79000.0	29.4	-55.6		47.1	574.6	52.4	5.3	1.000010
79500.0	28.7	-55.2		45.9	575.1	52.5	4.2	1.000010
80000.0	28.1	-54.8		44.8	575.6	52.7	3.1	1.000010
80500.0	27.4	-54.4		43.6	576.1	53.2	2.0	1.000010
81000.0	26.8	-54.1		42.6	576.6	69.7	1.8	1.000009
81500.0	26.2	-53.7		41.5	577.1	88.7	1.9	1.000009
82000.0	25.5	-53.3		40.5	577.6	103.7	2.2	1.000009
82500.0	25.0	-52.9		39.5	578.1	109.9	2.3	1.000009
83000.0	24.4	-52.6		38.5	578.9	112.8	2.2	1.000009

STATION ALTITUDE 3997.30 FEET MSL 19 MAR. 79 0900 HRS MST ASCENSION NO. 48				UPPER AIR DATA 0780060048 S M R				GEODETTIC COORDINATES 32.46034 LAT DEG 106.42307 LON DEG			
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION			
83500.0	23.8	-52.2		37.5	579.1	116.0	2.2	1.000008			
84000.0	23.3	-51.8		36.6	579.6	111.1	1.6	1.000008			
84500.0	22.7	-51.4		35.7	580.1	65.7	.7	1.000008			
85000.0	22.2	-51.1		34.6	580.6	353.4	1.2	1.000008			
85500.0	21.7	-50.7		34.0	581.1	335.0	2.5	1.000008			
86000.0	21.2	-50.3		33.1	581.5	329.5	4.2	1.000007			
86500.0	20.7	-49.9		32.3	582.0	327.2	6.0	1.000007			
87000.0	20.2	-49.6		31.5	582.5	325.5	7.8	1.000007			
87500.0	19.8	-49.2		30.7	583.0	320.6	9.6	1.000007			
88000.0	19.3	-48.8		30.0	583.5	317.2	11.4	1.000007			
88500.0	18.9	-48.4		29.3	584.0	314.8	13.3	1.000007			
89000.0	18.4	-48.1		28.5	584.5	314.0	12.6	1.000006			
89500.0	18.0	-47.7		27.8	585.0	313.2	11.4	1.000006			
90000.0	17.6	-47.3		27.2	585.5	312.3	10.2	1.000006			
90500.0	17.2	-46.4		26.5	586.7	307.6	8.5	1.000006			
91000.0	16.8	-45.4		25.8	587.9	297.0	6.6	1.000006			
91500.0	16.5	-44.5		25.1	589.1	279.1	5.1	1.000006			
92000.0	16.1	-43.5		24.4	590.3	256.5	5.0	1.000005			
92500.0	15.8	-42.6		23.8	591.6	249.5	7.3	1.000005			
93000.0	15.4	-41.6		23.2	592.8	245.9	9.6	1.000005			
93500.0	15.1	-40.7		22.6	594.0	243.6	11.9	1.000005			
94000.0	14.7	-39.7		22.0	595.2	244.2	14.0	1.000005			
94500.0	14.4	-38.8		21.4	596.4	244.8	16.0	1.000005			
95000.0	14.1	-37.8		20.9	597.6	245.3	18.1	1.000005			
95500.0	13.8	-36.9		20.3	598.9	245.9	19.9	1.000005			
96000.0	13.5	-35.9		19.8	600.1	246.9	20.6	1.000004			
96500.0	13.2	-35.4		19.3	601.6	247.9	21.3	1.000004			
97000.0	12.9	-35.8		19.0	600.1	248.9	22.0	1.000004			
97500.0	12.6	-36.2		18.6	599.6	249.2	23.1	1.000004			
98000.0	12.4	-36.6		18.2	599.1	247.8	25.6	1.000004			
98500.0	12.1	-37.0		17.8	598.6	246.7	28.0	1.000004			
99000.0	11.8	-37.4		17.5	598.1	245.7	30.5	1.000004			
99500.0	11.6	-37.8		17.1	597.5	245.2	32.8	1.000004			
100000.0	11.3	-38.1		16.8	597.3	245.8	34.1	1.000004			
100500.0	11.1	-38.0		16.4	597.4	246.3	35.4	1.000004			
101000.0	10.8	-37.9		16.1	597.5	246.7	36.7	1.000004			
101500.0	10.6	-37.8		15.7	597.6			1.000003			
102000.0	10.4	-37.8		15.4	597.7			1.000003			
102500.0	10.2	-37.7		15.0	597.8			1.000003			
103000.0	9.9	-37.6		14.7	597.9			1.000003			

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

UPPER AIR DATA
0780060048
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
103500.0	9.7	-37.5		14.4	598.0			1.0000003
103600.0	9.6	-37.5		14.4	598.0			1.0000003
103700.0	9.5	-37.5		14.4	598.0			1.0000003
103800.0	9.4	-37.5		14.4	598.0			1.0000003
103900.0	9.3	-37.5		14.4	598.0			1.0000003
104000.0	9.2	-37.5		14.4	598.0			1.0000003
104100.0	9.1	-37.5		14.4	598.0			1.0000003
104200.0	9.0	-37.5		14.4	598.0			1.0000003
104300.0	8.9	-37.5		14.4	598.0			1.0000003
104400.0	8.8	-37.5		14.4	598.0			1.0000003
104500.0	8.7	-37.5		14.4	598.0			1.0000003
104600.0	8.6	-37.5		14.4	598.0			1.0000003
104700.0	8.5	-37.5		14.4	598.0			1.0000003
104800.0	8.4	-37.5		14.4	598.0			1.0000003
104900.0	8.3	-37.5		14.4	598.0			1.0000003
105000.0	8.2	-37.5		14.4	598.0			1.0000003
105100.0	8.1	-37.5		14.4	598.0			1.0000003
105200.0	8.0	-37.5		14.4	598.0			1.0000003
105300.0	7.9	-37.5		14.4	598.0			1.0000003
105400.0	7.8	-37.5		14.4	598.0			1.0000003
105500.0	7.7	-37.5		14.4	598.0			1.0000003
105600.0	7.6	-37.5		14.4	598.0			1.0000003
105700.0	7.5	-37.5		14.4	598.0			1.0000003
105800.0	7.4	-37.5		14.4	598.0			1.0000003
105900.0	7.3	-37.5		14.4	598.0			1.0000003
106000.0	7.2	-37.5		14.4	598.0			1.0000003
106100.0	7.1	-37.5		14.4	598.0			1.0000003
106200.0	7.0	-37.5		14.4	598.0			1.0000003
106300.0	6.9	-37.5		14.4	598.0			1.0000003
106400.0	6.8	-37.5		14.4	598.0			1.0000003
106500.0	6.7	-37.5		14.4	598.0			1.0000003
106600.0	6.6	-37.5		14.4	598.0			1.0000003
106700.0	6.5	-37.5		14.4	598.0			1.0000003
106800.0	6.4	-37.5		14.4	598.0			1.0000003
106900.0	6.3	-37.5		14.4	598.0			1.0000003
107000.0	6.2	-37.5		14.4	598.0			1.0000003
107100.0	6.1	-37.5		14.4	598.0			1.0000003
107200.0	6.0	-37.5		14.4	598.0			1.0000003
107300.0	5.9	-37.5		14.4	598.0			1.0000003
107400.0	5.8	-37.5		14.4	598.0			1.0000003
107500.0	5.7	-37.5		14.4	598.0			1.0000003
107600.0	5.6	-37.5		14.4	598.0			1.0000003
107700.0	5.5	-37.5		14.4	598.0			1.0000003
107800.0	5.4	-37.5		14.4	598.0			1.0000003
107900.0	5.3	-37.5		14.4	598.0			1.0000003
108000.0	5.2	-37.5		14.4	598.0			1.0000003
108100.0	5.1	-37.5		14.4	598.0			1.0000003
108200.0	5.0	-37.5		14.4	598.0			1.0000003
108300.0	4.9	-37.5		14.4	598.0			1.0000003
108400.0	4.8	-37.5		14.4	598.0			1.0000003
108500.0	4.7	-37.5		14.4	598.0			1.0000003
108600.0	4.6	-37.5		14.4	598.0			1.0000003
108700.0	4.5	-37.5		14.4	598.0			1.0000003
108800.0	4.4	-37.5		14.4	598.0			1.0000003
108900.0	4.3	-37.5		14.4	598.0			1.0000003
109000.0	4.2	-37.5		14.4	598.0			1.0000003
109100.0	4.1	-37.5		14.4	598.0			1.0000003
109200.0	4.0	-37.5		14.4	598.0			1.0000003
109300.0	3.9	-37.5		14.4	598.0			1.0000003
109400.0	3.8	-37.5		14.4	598.0			1.0000003
109500.0	3.7	-37.5		14.4	598.0			1.0000003
109600.0	3.6	-37.5		14.4	598.0			1.0000003
109700.0	3.5	-37.5		14.4	598.0			1.0000003
109800.0	3.4	-37.5		14.4	598.0			1.0000003
109900.0	3.3	-37.5		14.4	598.0			1.0000003
110000.0	3.2	-37.5		14.4	598.0			1.0000003
110100.0	3.1	-37.5		14.4	598.0			1.0000003
110200.0	3.0	-37.5		14.4	598.0			1.0000003
110300.0	2.9	-37.5		14.4	598.0			1.0000003
110400.0	2.8	-37.5		14.4	598.0			1.0000003
110500.0	2.7	-37.5		14.4	598.0			1.0000003
110600.0	2.6	-37.5		14.4	598.0			1.0000003
110700.0	2.5	-37.5		14.4	598.0			1.0000003
110800.0	2.4	-37.5		14.4	598.0			1.0000003
110900.0	2.3	-37.5		14.4	598.0			1.0000003
111000.0	2.2	-37.5		14.4	598.0			1.0000003
111100.0	2.1	-37.5		14.4	598.0			1.0000003
111200.0	2.0	-37.5		14.4	598.0			1.0000003
111300.0	1.9	-37.5		14.4	598.0			1.0000003
111400.0	1.8	-37.5		14.4	598.0			1.0000003
111500.0	1.7	-37.5		14.4	598.0			1.0000003
111600.0	1.6	-37.5		14.4	598.0			1.0000003
111700.0	1.5	-37.5		14.4	598.0			1.0000003
111800.0	1.4	-37.5		14.4	598.0			1.0000003
111900.0	1.3	-37.5		14.4	598.0			1.0000003
112000.0	1.2	-37.5		14.4	598.0			1.0000003
112100.0	1.1	-37.5		14.4	598.0			1.0000003
112200.0	1.0	-37.5		14.4	598.0			1.0000003
112300.0	0.9	-37.5		14.4	598.0			1.0000003
112400.0	0.8	-37.5		14.4	598.0			1.0000003
112500.0	0.7	-37.5		14.4	598.0			1.0000003
112600.0	0.6	-37.5		14.4	598.0			1.0000003
112700.0	0.5	-37.5		14.4	598.0			1.0000003
112800.0	0.4	-37.5		14.4	598.0			1.0000003
112900.0	0.3	-37.5		14.4	598.0			1.0000003
113000.0	0.2	-37.5		14.4	598.0			1.0000003
113100.0	0.1	-37.5		14.4	598.0			1.0000003
113200.0	0.0	-37.5		14.4	598.0			1.0000003

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

MRN SIGNIFICANT LEVEL DATA
0780060048
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
3140.	999.**	9999.**	-9999.**	-9999.**	99	-37.5	9.600+0
3028.	246.	17.	7.	10.	99	-38.1	1.140+1
2921.	248.	11.	4.	10.	99	-35.3	1.330+1
2731.	312.	5.	-4.	4.	99	-47.3	1.760+1
2640.	323.	4.	-4.	3.	99	-49.4	2.000+1
2385.	44.	4.	-3.	-3.	99	-55.9	3.000+1
2061.	150.	4.	3.	-2.	99	-58.4	5.000+1
1884.	204.	2.	2.	1.	99	-57.6	6.620+1
1849.	232.	6.	4.	5.	99	-60.1	7.000+1
1685.	239.	17.	9.	14.	99	-64.9	9.140+1
1629.	236.	19.	10.	15.	99	-61.2	1.000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL
19 MAR. 79 0900 HRS MST
ASCENSION NO. 48

MANDATORY LEVELS
0780060048
S M R

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4782.	6.9	-6.1	39.	9999.0	9999.0XX
800.0	6423.	6.8	-6.7	37.	9999.0	9999.0XX
750.0	8149.	2.6	-10.2	38.	9999.0	9999.0XX
700.0	9965.	-1.8	-14.2	38.	215.4	22.2
650.0	11891.	-3.6	-21.5	23.	225.2	33.7
600.0	13954.	-6.8	-27.4	17.	231.3	39.1
550.0	16160.	-11.1	-25.7	29.	223.0	41.5
500.0	18541.	-16.9	-23.6	50.	224.4	44.8
450.0	21104.	-23.3	-28.1	64.	232.3	49.3
400.0	23890.	-29.9	-36.0	50.	229.8	52.1
350.0	26973.	-36.9	-43.3	51.	230.6	51.3
300.0	30409.	-45.8	-50.9	50.	236.2	53.2
250.0	34293.	-56.7			245.0	54.5
200.0	36910.	-57.7			239.5	58.3
175.0	41707.	-52.7			241.2	55.2
150.0	44980.	-52.5			241.9	62.0
125.0	48832.	-54.6			245.5	42.7
100.0	53461.	-61.2			236.4	36.2
80.0	57950.	-62.5			236.9	30.3
70.0	60670.	-60.1			231.8	12.0
60.0	63961.	-57.9			115.3	8.5
50.0	67628.	-58.4			149.7	7.2
40.0	72245.	-57.3			158.0	4.6
30.0	78232.	-55.9			43.4	7.5
25.0	82064.	-53.0			109.2	2.3
20.0	86824.	-49.4			323.4	8.5
15.0	93107.	-40.5			243.5	12.0
10.0	102292.	-37.6				

AX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL
 19 MAR. 79 0900 HRS MST
 ASCENSION NO. 48

MRN MANDATORY LEVELS
 0780060048
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS			AIR DEG C		
3116.	9999.**	9999.**	-9999.**	-9999.**	99	-37.6		1.000+1
2538.	244.	6.	3.	0.	99	-40.5		1.500+1
2046.	323.	4.	-4.	3.	99	-49.4		2.000+1
2501.	109.	1.	0.	-1.	99	-53.0		2.500+1
2385.	43.	4.	-3.	-3.	99	-55.9		3.000+1
2202.	156.	2.	2.	-1.	99	-57.3		4.000+1
2061.	150.	4.	3.	-2.	99	-58.4		5.000+1
1946.	115.	4.	2.	-4.	99	-57.9		6.000+1
1849.	232.	6.	4.	5.	99	-60.1		7.000+1
1767.	237.	10.	9.	13.	99	-62.5		8.000+1
1629.	236.	19.	10.	16.	99	-61.2		1.000+2
1488.	245.	22.	9.	20.	99	-54.6		1.250+2
1371.	242.	32.	15.	26.	99	-52.5		1.500+2
1271.	241.	25.	14.	25.	99	-52.7		1.750+2
1186.	240.	30.	15.	26.	99	-57.7		2.000+2
1045.	245.	28.	12.	25.	99	-56.7		2.500+2
927.	236.	27.	15.	23.	05	-45.8		3.000+2
822.	231.	26.	17.	20.	06	-36.9		3.500+2
728.	230.	27.	17.	20.	06	-29.9		4.000+2
643.	232.	25.	16.	20.	05	-23.3		4.500+2
565.	224.	23.	16.	16.	07	-16.9		5.000+2
493.	223.	21.	16.	15.	15	-11.1		5.500+2
425.	231.	20.	13.	16.	21	-6.8		6.000+2
362.	225.	17.	12.	12.	18	-3.6		6.500+2
304.	215.	11.	9.	7.	12	-1.8		7.000+2
246.	9999.**	9999.**	-9999.**	-9999.**	13	2.6		7.500+2
196.	9999.**	9999.**	-9999.**	-9999.**	14	6.8		8.000+2
146.	9999.**	9999.**	-9999.**	-9999.**	13	6.9		8.500+2

17

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.